

REMARKS

Claims 1, 21, 33 and 35-52 were presented for examination in this application. Claims 1, 21, 33 and 35-52 were rejected in the Office Action dated October 8, 2008.

Claims 1, 21, 33 and 42 are hereby amended to more clearly recite inherent aspects of the invention as originally claimed. No claim is added herein. No claim is cancelled herein.

Reconsideration of this application as amended, and allowance of all pending claims 1, 21, 33 and 35-52, as amended, are hereby respectfully requested.

Summary of Substance of Interview

Applicants' attorney, Dohyun Ahn (Reg. No. 63,237), conducted an interview with the Examiner on March 12, 2009. Independent claims 1, 21 and 33, as amended herein, and U.S. Patent No. 5,850,352 to Moezzi et al. ("Moezzi") were discussed during the interview.

The Examiner indicated during the interview that he may withdraw Moezzi as a primary reference after further review of Moezzi in view of the amendment to claims 1, 21 and 33.

Supplemental Information Disclosure Statement

A supplemental information disclosure statement including additional references for consideration is submitted herewith. The Examiner is respectfully requested to indicate consideration of these references in the next communication to the Applicants.

Claims 1, 21, 33 and 35-52 Are Not Obvious over Cited Reference

In 4th paragraph of the Office Action, claims 1, 21, 33 and 35-52 were rejected as being anticipated by Moezzi in view of U.S. Patent No. 5,023,725 to McCutchen (“McCutchen”).

This rejection is traversed in view of the amendments.

Independent claim 1, as amended, specifically recites:

. . . a first sensor service unit operatively coupled to a first immersive e panoramic sensor for capturing in real time two or more overlapping digital images covering an expanded field of view from a substantially same location to generate first video data representing a first immersive panoramic field of view of the environment;
a management console located remotely from the first sensor service unit and operatively coupled to the network, the network also operatively coupled to the first sensor service unit to transmit the first video data from the first sensor service unit to the management console, *the management console including a sensor display subsystem for displaying an immersive panoramic video based at least in part on the first video data transmitted over the network from the first sensor service unit to monitor the security of the environment in real time*; and
a data repository located remotely from the first sensor service unit and operatively coupled to the network for storing or retrieving the first video data marked with time-indices for tracking security events, the time indices representing times at which the overlapping digital images were captured by the first immersive panoramic sensor.

The network-based surveillance system of claim 1 monitors the security of an environment in real time. The first sensor service unit is coupled to an immersive panoramic sensor. The panoramic sensor captures two or more overlapping digital images in real time to cover an expanded field of view. The panoramic sensor generates video data covering an immersive panoramic field of view of the environment. A management console is located remotely from the first sensor service unit and is operatively coupled to a network to monitor the security of the environment in real time. A data repository is also coupled to the network to

store or retrieve the video data with time-indices. The time-indices are used for tracking security events and represent times at which the overlapping digital images were captured.

Independent claim 1, as amended, is patentable over Moezzi and McCutchen for at least the following three reasons: (i) Moezzi and McCutchen fail to disclose the feature of “the management console including a sensor display subsystem for displaying an immersive panoramic video . . . to monitor the security of the environment in real time,” (ii) Moezzi and McCutchen fail to disclose the feature of “a data repository . . . for storing or retrieving the first video data marked with time-indices for tracking security events,” and (iii) Moezzi and McCutchen cannot be combined because technology disclosed in these references are incompatible.

First, Moezzi and McCutchen fail to disclose the feature of “the management console including a sensor display subsystem for displaying an immersive panoramic video . . . to monitor the security of the environment in real time,” as recited in claim 1, as amended. Moezzi discloses creating a synthesized virtual image of a real-world scene based on multiple views of the scene using a process called hypermosaicing. See Moezzi, col. 9, ll. 10-18. In Moezzi, multiple video cameras are placed at different spatial locations to capture scenes at different spatial perspectives. See Moezzi, col. 11, ll. 26-36. A computer then builds an environment model based on the capture images. See Moezzi, col. 12, ll. 9-26. The system in Moezzi constructs virtual environment in non-real-time because there is insufficient computing power to process unstructured video scenes in real time. See Moezzi, col. 13, ll. 31-41. Therefore, Moezzi does not disclose a system for monitoring the security of the environment in real time. McCutchen likewise fails to disclose this feature. McCutchen discloses an environmental imaging system comprising a modular camera and a matching projection system

based on two-sided dodecahedron. See McCutchen, col. 4, ll. 22-31. In McCutchen, sensors (CCDs) in a camera module capture images and send the images directly to a projection system in a closed-circuit system or into a recording device for recording. See McCutchen, col. 14, ll. 51-64. But nowhere in McCutchen does it disclose that the images captured in the modular camera are used for monitoring the security of the environment in real time. Therefore, McCutchen also fails to disclose the feature of “the management console including a sensor display subsystem for displaying an immersive panoramic video . . . to monitor the security of the environment in real time,” as recited in claim 1, as amended.

Second, Moezzi and McCutchen fail to disclose the feature of “a data repository . . . for storing or retrieving the first video data marked with time-indices for tracking security events” as recited in claim 1, as amended. Moezzi discloses temporal database associated with the environmental model. See Moezzi, col. 38, ll. 36-39. But nowhere in Moezzi does it disclose that any data are stored in the temporal database or retrieved from the temporal database for tracking security events. Nor does McCutchen disclose this feature. McCutchen at best discloses an environmental imaging system comprising a modular camera and a matching projection system. Nowhere in McCutchen does it disclose that any data are stored or retrieved to track security events.

Finally, there is no motivation to combine Moezzi with McCutchen. If the combination of the references would make the references unsatisfactory for its intended purpose, there is no motivation to combine. See MPEP 2143.01 (“If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.”) Moezzi requires capturing of scenes at different spatial locations to create virtual environment. See Moezzi, col. 11, ll. 26-36. In

contrast, McCutchen captures multiple images covering different fields of view at the same location. See McCutchen, col. 11, ll. 58-63. If the camera module of McCutchen is combined with the system of Moezzi to provide the multiple images, the captured images would cover fields of view from the same spatial location. In order to create the virtual environment, the system of Moezzi must be provided with images captured from different spatial locations. Hence, the system of Moezzi would not operate with the camera of McCutchen that captures views from the same spatial location. Nor does Moezzi disclose addressing overlapping images captured from the same spatial location. Therefore, there is no motivation to combine the camera of McCutchen with the system of Moezzi.

For at least the above reasons, claim 1, as amended, is patentably distinguishable from the combination of Moezzi and McCutchen. Therefore, the Examiner is respectfully requested to withdraw the rejection of claim 1, as amended.

Claims 35-45 depend from claim 1. Therefore, the same arguments set forth above for claim 1 are equally applicable to claims 35-45.

Independent claim 21, as amended, also recites the features of “a management console located remotely from the first sensor service unit, displaying a first immersive panoramic video . . . to monitor the security of the environment in real time” and “a data repository located remotely from the first sensor service unit, the first video transmitted over the network, the first video data marked with time indices for tracking security events.” Therefore, the same arguments set forth above for claim 1 are equally applicable to claim 21 and its dependent claims 46-52.

Independent claim 33, as amended, also recites the features of “a management console located remotely from the first sensor service unit, display a first immersive panoramic video . . .

to monitor the security of the environment in real time” and “a data repository located remotely from the first sensor service unit, the first video transmitted over the network, the first video data marked with time indices for tracking security events.” Therefore, the same arguments set forth above for claim 1 are equally applicable to claim 33.

For at least the above reasons, claims 21, 33 and 35-52 are patentably distinguishable from the combination of Moezzi and McCutchen. Therefore, the Examiner is respectfully requested to withdraw the rejection of claims 21, 33 and 35-52, as amended.

Dependent Claims Are Distinguishable from Cited Reference for Additional Reasons

Dependent claims 35-37 are patentable for the additional reason that they recite the feature of “*first sensor service unit* further comprises a motion detector for generating a sensor specific motion detection event data indicating detection of motion in the two or more overlapping images” In Moezzi, the video system processes images to extract information about an object motion and activity in real world environment. See Moezzi, col. 23, ll. 27-42. Specifically, the camera unit in Moezzi sends the images to the video system where the object motion or activity is extracted based on image processing. Nowhere in Moezzi does it state that the camera unit in Moezzi performs any processing to generate motion detection event data. Therefore, Moezzi fails to disclose this feature. Nor does McCutchen disclose this feature. McCutchen at best discloses an environmental imaging system comprising a modular camera and a matching projection system. Nowhere in McCutchen does it disclose performing any processing at the camera to generate any motion detection event data. Therefore, dependent claims 35-37 are patentably distinguishable from the combination of Moezzi and McCutchen for the additional reason that they recite the feature of “*first sensor service unit* further comprises a

motion detector for generating a sensor specific motion detection event data indicating detection of motion in the two or more overlapping images”

Dependent claims 46-48 similarly recite the feature of “at the first sensor service unit, generating a sensor specific motion detection event data indicating detection of motion in the two or more overlapping images” Therefore, the arguments set forth above for claims 35-37 are equally applicable to claims 46-48.

Dependent claims 40-41 are patentable for the additional reason that they recite the feature of “a second sensor service unit operatively coupled to a non-image surveillance sensor system, the non-image surveillance sensor system generating non-image event data. . . .” Moezzi at best discloses using multiple video cameras placed at different spatial locations to capture scenes at different spatial perspectives. See Moezzi, col. 11, ll. 26-36. Nowhere in Moezzi does it disclose anything about generating non-image event data by a non-image surveillance sensor system (e.g., surveillance radar and magnetic field disturbance sensor). Nor does McCutchen disclose this feature. McCutchen at best discloses an environmental imaging system comprising a modular camera and a matching projection system. Nowhere in McCutchen does it disclose generating any non-image event data. Therefore, dependent claims 40-41 are patentably distinguishable from the combination of Moezzi and McCutchen for the additional reason that they recite the feature of “a second sensor service unit operatively coupled to a non-image surveillance sensor system, the non-image surveillance sensor system generating non-image event data. . . .”

Dependent claim 51 similarly recites the feature of “at a second service unit, generating non-image event data based on surveillance of the environment but not based on overlapping digital images. . . .” Therefore, the arguments set forth above for claims 40-41 are equally

applicable to claim 51.

Dependent claims 42-44 are patentable for the additional reason that they recite the feature of “a non-image store for storing or retrieving the non-image event data. . . .” As set forth above for claims 40-41, Moezzi and McCutchen fail to disclose detection of any events based on non-image surveillance sensor system. Further, Moezzi and McCutchen also fail to disclose storing or retrieving such non-image event data. Therefore, dependent claims 42-44 are patentably distinguishable from the combination of Moezzi and McCutchen for the additional reason that they recite the feature of “a non-image store for storing or retrieving the non-image event data. . . .”

Dependent claim 45 is patentable for the additional reason that it recites the feature of “transmits a heartbeat message to the management console, the heartbeat message indicating that the first sensor service unit is enabled and actively communicating with the management console” Moezzi at best discloses performing camera handoff automatically based on a priori information regarding camera location and environment configuration. See Moezzi, col. 30, ll. 11-22. Moezzi, however, fails to disclose sending any message indicating that a camera is enabled and actively communicating with the management console. Nor does McCutchen disclose this feature. McCutchen at best discloses an environmental imaging system comprising a modular camera and a matching projection system. Nowhere in McCutchen does it disclose sending message to indicate a camera is enabled and actively communicating. Therefore, dependent claim 45 is patentably distinguishable from the combination of Moezzi and McCutchen for the additional reason that they recite the feature of “transmits a heartbeat message to the management console, the heartbeat message indicating that the first sensor service unit is enabled and actively communicating with the management console”

Dependent claim 52 similarly recites the feature of “transmitting a heartbeat message to the management console, the heartbeat message indicating that the first sensor service unit is enabled and actively communicating. . . .” Therefore, the arguments set forth above for claims 45 are equally applicable to claim 52.

Therefore, dependent claims 35-37, 40-48, 51 and 52 are patentable for the additional reason that these claims recite features not disclosed in Moezzi and McCutchen.

Closing

Applicants believe that the application is in condition for allowance of all claims herein, and therefore an early Notice of Allowance is respectfully requested. If the Examiner believes that for any reason direct contact with Applicant's attorney would help advance the prosecution of this case to finality, the Examiner is invited to telephone the undersigned at the number given below.

Respectfully submitted,

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